

*Dear Editor*

*Below are the answers to the problems you raised, and modifications were incorporated in red in the revised manuscript.*

However, there are still some important aspects that require your attention. In particular, it is not clear whether biological processes are indeed involved in the formation of mirabilite (no causative relationship found) and what are the influence of physical and chemical factors. In addition, the low number of mirabilite samples (2), and so the overall low statistical power of the study should be clearly acknowledged in the Discussion as another major limitation to the conclusions.

*There is a final paragraph in the Discussion that emphasizes the need for more samples, geochemical controlled conditions, etc. to validate the proposed processes. These and the above paragraph explaining the shortcomings of the study are, in our opinion, clearly acknowledging the major limitations of the study.*

Minor corrections also have to be made: mention the number of reads obtained and processed for each sample, and, regarding their processing, indicate whether the sequence datasets were rarefied or directly compared (%).

*Text was added to mention the number of reads and the processing.*

In Figure 2, indicate Y-axis unit.

*The unit was added.*

In Figure 3, specify the color code used for the heatmaps and the taxonomic level at which the Venn diagramm was produced.

*Color code was added and we changed the colors for color-blind readers. Text was added to specify the genus level for the Venn diagram.*

In addition, taxa names should be corrected at some places (e.g., l.246 Baceroida, l.244 Bacillota should be italicized).

*Names corrected.*

Please revise your manuscript regarding these concerns.

*Thank you for the detailed corrections!!*

*We hope that the changes will be accepted and the manuscript can be published in its actual version.*